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**of**

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**for**

**MOUNTING BRACKET WITH FASTENER RETENTION**

# **MOUNTING BRACKET WITH FASTENER RETENTION**

## **BACKGROUND OF THE INVENTION**

### **1. Field of the Invention**

The present invention relates to attaching an airbag to the interior of a vehicle. More specifically, the present invention relates to a novel mounting bracket capable of retaining a fastener that may be used to mount an airbag and/or a tether to a vehicle.

### **2. Description of Related Art**

Inflatable airbags are well accepted for use in motor vehicles and have been credited with preventing numerous deaths and injuries. In fact, the inclusion of inflatable safety restraint devices, or airbags, is now a legal requirement for many new vehicles. Airbags are typically installed throughout the passenger cabin of a vehicle, including the steering wheel. In the event of an accident, an accelerometer within the vehicle measures the abnormal deceleration and triggers the expulsion of rapidly expanding gases from an inflator. The expanding gases fill the airbags, which quickly inflate in front of the driver and passenger to protect them from impact against the windshield, dashboard, steering wheel, or other portions of the vehicle. Side impact airbags, such as curtain airbags, have also been developed in response to the need for protection from impacts in a lateral direction or against the side of the vehicle.

Recently, airbag technology has continued to advance such that curtain airbags are now enlisted to provide roll-over protection. During a roll-over accident, the vehicle occupants can be jostled considerably, thereby causing the occupant to impact various parts of the vehicle interior. Even worse, the occupant may be ejected from the vehicle. Alternatively, a head or

1 limb of an occupant may extend outside the vehicle during the roll-over. Such “occupant  
2 excursion” during roll-over accidents is a common cause of automotive fatality, particularly in  
3 the case of vehicle occupants that are not wearing a seat belt during the roll-over.

4 Conventional curtain airbags attempt to combat the dangers of side impact or roll-over  
5 accidents by having a curtain airbag unroll or unfold downward from the roof of the vehicle and  
6 then inflate beside the person as a means of preventing the person from hitting the door, the  
7 window, or the side of the vehicle during lateral impact. Since a vehicle occupant may be  
8 leaning forward, reclined in the seat, or at any position in between, such airbags are typically  
9 long enough to cover the whole interior side of the vehicle, protecting occupants in both the  
10 front and rear occupant seats.

11 Generally, the curtain airbags must be sized to hold large volumes of inflation gas and  
12 descend below the window sill. Consequently, when not inflated the curtain airbag includes a  
13 significant amount of material. This material is then rolled, folded, or otherwise gathered to  
14 form a tight, tubular bundle. A sock that fits around the curtain is also added to ensure that the  
15 curtain airbag is kept rolled or folded.

16 The curtain is stored and mounted either on or proximate a roof rail of the vehicle. Such  
17 mounting is generally accomplished via a two-step process. First, the curtain must be held in  
18 the proper position. This can be done by either having multiple workers hold the airbag or by  
19 attaching the airbag to sophisticated jigs, hooks, or mounting brackets (collectively “brackets”)  
20 that have been placed into slots in the body of the vehicle. Once the curtain airbag has been  
21 secured in the proper location, the workers are free to affix the curtain airbag assembly to the  
22 vehicle using fasteners such as bolts, screws, rivets, and the like. Usually these fasteners are

1 threaded into holes, slits, or apertures that have been put into the top of the curtain airbag to  
2 facilitate the assembly process.

3       However, in order for this two-step process to properly mount the curtain airbag, steps  
4 must be taken to ensure that the bracket adequately retains the fasteners. Thus, a retaining  
5 washer or other retaining component must be added. These retaining washers are made of  
6 spring steel and comprise a ring or ring-like structure that is positioned around a portion of the  
7 fastener. This retaining washer must be added to the system before the bracket is affixed to the  
8 vehicle.

9       Unfortunately, the use of such retaining washers creates significant disadvantages for  
10 airbag manufacturers. For example, retaining washers increase the total number components  
11 required to produce the airbag. As a result, airbag manufacturers are forced to expend additional  
12 resources to produce, design, and/or install the airbag system. Moreover, adding a retaining  
13 washer to the curtain airbag assembly also increases the time required to complete the  
14 installation process. Retaining washers are usually very small components, and as such, airbag  
15 installers often waste precious seconds and/or minutes trying to properly position the retaining  
16 washer around the fastener. As manufacturers incur costs for every moment that passes during  
17 the manufacturing process, these wasted seconds or minutes can significantly affect the total  
18 production costs and the manufacturer's overall profit margin.

19       Retaining washers also limit the type of the fastener that may be used during installation.  
20 As the retaining washer must surround a portion of the fastener, only those fasteners having a  
21 diameter, width, and shape that corresponds to the size of the retaining washer may be used to

1 mount the airbag. As a result, the ability of manufacturers to change the size or shape of the  
2 fastener to accommodate for various spatial or production constraints is significantly reduced.

3 In addition to the problems associated with the use of retaining washers, many known  
4 brackets have an additional defect in that they fail to compensate for the rattling and vibrations  
5 associated with the normal operation of the vehicle. Over the course of time, such rattling and  
6 vibrations can loosen and/or disconnect the fastener and the bracket from the vehicle. Such  
7 loosening or disconnecting of the fastener and the bracket is undesirable and may prevent the  
8 curtain airbag assembly from properly functioning during a crash.

9 Recently, some airbag manufacturers have attempted to prevent the loosening and/or  
10 disconnecting of the fastener and the brackets from the vehicle by employing shoulder bolts or  
11 other sophisticated fasteners. Such fasteners have been specifically designed to ensure that the  
12 fastener and the bracket remain permanently affixed to the vehicle. Although some of these  
13 systems have been successful in permanently attaching the fastener and bracket, the shoulder  
14 bolts and other sophisticated fasteners required by these systems are often difficult to use and/or  
15 expensive to produce. As such, the production costs associated with using these sophisticated  
16 fasteners are drastically increased.

17 Accordingly, there is a need in the art for a mounting bracket that addresses and/or  
18 solves one or more of the above-listed limitations. Such a device is disclosed herein.

## 19 20 **SUMMARY OF THE INVENTION**

21 The apparatus of the present invention has been developed in response to the present  
22 state of the art, and in particular, in response to the problems and needs in the art that have not

1 yet been fully solved by currently available mounting brackets. In accordance with the  
2 invention as embodied and broadly described herein in the preferred embodiment, a mounting  
3 bracket that may be used to mount a curtain airbag and/or one or more tethers to a vehicle is  
4 provided. According to one embodiment, the mounting bracket is made of steel or pre-coated  
5 steel and may be attached to a vehicle through the use of one or more fasteners such as bolts,  
6 screws, or the like.

7 In general, the mounting bracket is a sheet or plate that has been bent or otherwise  
8 configured such that it comprises two faces: a front face and a rear face. The rear face is  
9 positioned behind the front face. The mounting bracket is constructed such that all or a portion  
10 of an airbag and/or a tether may be enclosed between the front face and the rear face.

11 The mounting bracket further comprises a first opening and a second opening. The first  
12 opening is located on the front face and the second opening is located on the rear face.  
13 Preferably, the second opening is positioned behind the first opening. The first opening and the  
14 second opening are sized such that one or more fasteners may pass through the mounting  
15 bracket via the first opening and the second opening.

16 The mounting bracket of the present invention is designed such that it is capable of  
17 retaining a fastener. Thus, the mounting bracket comprises one or more retaining members.  
18 The one or more retaining members are constructed such that if the fastener passes through the  
19 mounting bracket, the fastener engages the retaining member and causes the mounting bracket  
20 to retain the fastener.

21 In some embodiments, the retaining member may comprise one or more retaining tabs.  
22 The retaining tabs are positioned on the rear face of the mounting bracket proximate the second

1 opening. Preferably, the retaining tabs are constructed such that if the fastener passes through  
2 the mounting bracket, the fastener contacts and/or pushes apart the retaining tabs and causes the  
3 mounting bracket to retain the fastener.

4 Additional embodiments may be made in which the retaining tabs are angled.  
5 Preferably, this is accomplished by bending or otherwise configuring the retaining tabs such that  
6 the retaining tabs form an angle with respect to the rear face. The measure of the angle formed  
7 between the retaining tabs and the rear face may be from about 3° to about 35°.

8 The retaining member may further be constructed to include one or more centering tabs.  
9 The centering tabs are positioned on the rear face proximate the retaining tabs. Preferably, the  
10 position of the centering tabs is selected such that the centering tabs and the retaining tabs  
11 surround the second opening.

12 Preferably, the centering tabs are capable of guiding a fastener. More specifically, the  
13 centering tabs are constructed such that if the fastener passes through the mounting bracket, the  
14 centering tabs guide the fastener to ensure that the fastener contacts and/or pushes apart the  
15 retaining tabs.

16 As with the retaining tabs, embodiments may be constructed in which the centering tabs  
17 are angled. Preferably, this is accomplished by bending or otherwise configuring the centering  
18 tabs such that the centering tabs form an angle with respect to the rear face. The measure of the  
19 angle formed between the centering tabs and the rear face may be from about 45° to about 70°.

20 In addition to the retaining member, the mounting bracket of the present invention may  
21 further comprise one or more anti-rotation tabs. The anti-rotation tabs are flaps, tabs, or  
22 extensions that extend rearward from the mounting bracket. Preferably, the anti-rotation tabs

1 are attached to the rear face and are designed such that they are capable of being inserted into an  
2 aperture or opening that is located on a vehicle.

3 The anti-rotation tabs may further be constructed such that if the mounting bracket is  
4 installed on a vehicle, the anti-rotation tabs prevent the mounting bracket from rotating. More  
5 specifically, if the mounting bracket is affixed to a vehicle, the anti-rotation tabs engage the  
6 vehicle and prevent the mounting bracket from rotating or spinning.

7 These and other features and advantages of the present invention will become more fully  
8 apparent from the following description and appended claims.

#### 9 10 **BRIEF DESCRIPTION OF THE DRAWINGS**

11 In order that the manner in which the above-recited and other features and advantages of  
12 the invention are obtained will be readily understood, a more particular description of the  
13 invention briefly described above will be rendered by reference to specific embodiments thereof  
14 which are illustrated in the appended drawings. Understanding that these drawings depict only  
15 typical embodiments of the invention and are not therefore to be considered to be limiting of its  
16 scope, the invention will be described and explained with additional specificity and detail  
17 through the use of the accompanying drawings in which:

18 Figure 1 is a perspective view of the interior of a vehicle in which one embodiment of  
19 the mounting bracket of the present invention is used to attach a curtain airbag and a tether to a  
20 vehicle;

21 Figure 2 is a perspective view of the front side of the mounting bracket of the present  
22 invention;



1 Figure 3 is a perspective view of the backside of the mounting bracket of the present  
2 invention;

3 Figure 4 is a partially cutaway perspective view of the side of mounting bracket of the  
4 present invention;

5 Figure 5 is a cross-sectional view of the mounting bracket of the present invention used  
6 to enclose a portion of a curtain airbag; and

7 Figure 6 is a cross-sectional view of the mounting bracket of the present invention used  
8 to mount a curtain airbag to a vehicle.

9  
10 **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

11 The presently preferred embodiments of the present invention will be best understood by  
12 reference to the drawings, wherein like parts are designated by like numerals throughout. It will  
13 be readily understood that the components of the present invention, as generally described and  
14 illustrated in the figures herein, could be arranged and designed in a wide variety of different  
15 configurations. Thus, the following more detailed description of the embodiments of the  
16 apparatus, system, and method of the present invention, as represented in Figures 1 through 6, is  
17 not intended to limit the scope of the invention, as claimed, but is merely representative of  
18 presently preferred embodiments of the invention.

19 Referring to Figure 1, the interior of a vehicle 10 is depicted with an attached side  
20 curtain inflatable airbag 12. The side curtain airbag 12 is attached to an inflator (not shown) that  
21 provides inflation gas, and a sensor (not shown) that provides an initiation signal to initiate  
22 inflation of the curtain airbag 12 when an accident occurs.

1 Generally, the curtain airbag 12 is stored along a roof rail (not shown) of the vehicle 10.  
2 The curtain airbag 12 is designed to inflate and substantially cover the lateral side 14, the door  
3 16, the window 18, and the lock switch 20 when an accident occurs. Because the size of the  
4 roof rail is generally kept to a minimum to provide an aesthetic vehicle interior and to  
5 accommodate larger windows, the curtain airbag 12 is usually folded, rolled or otherwise  
6 gathered into a bundle having dimensions similar to those of the roof rail before installation on  
7 the vehicle.

8 As the roof rail and the curtain airbag 12 are often not visually appealing to the  
9 customer, a vehicle headliner 22 and/or decorative trim 24 are usually added to increase the  
10 aesthetic attractiveness of the vehicle interior 10. The headliner 22 is generally added to cover  
11 the roof of the vehicle while the edges of the headliner 22 descend to mask the area inboard of  
12 the roof rail. If the design of the vehicle interior 10 is such that the roof rail is not completely  
13 covered by the headliner 22, the decorative trim 24 may be used to further cover the roof rail or  
14 the curtain airbag 12.

15 The cushion airbag 12 may also be connected to one or more tethers 26 that extend from  
16 the cushion airbag 12 to one or more anchoring points 28 positioned on the interior of vehicle  
17 10. The tethers 26 are designed to exert tension on the inflated curtain airbag 12 to keep the  
18 inflated curtain airbag 12 generally between the vehicle occupants and the lateral side 14 of the  
19 vehicle 10.

20 The curtain airbag 12 and the tethers 26 are secured to the vehicle 10 to ensure that the  
21 curtain airbag 12 maintains a preferred position and orientation during deployment as well as

1 during the normal operation of the vehicle. Thus, one or more mounting brackets 30 are added  
2 to mount the curtain airbag 12 and the tethers 26 to the vehicle 10.

3 The mounting brackets 30 generally comprise two faces: a front face 32 and a rear face  
4 34. The rear face 34 is positioned behind the front face 32. Preferably, mounting brackets 30  
5 are made of metal such as steel or pre-coated steel. However, plastic and/or other materials that  
6 are capable of supporting the curtain airbag 12 and/or the tethers 26 may also be used.

7 The mounting brackets 30 are designed such that a portion of the curtain airbag 12  
8 and/or the tethers 26 may be enclosed between the front face 32 and the rear face 34. Once the  
9 curtain airbag 12 and/or the tethers 26 have been enclosed between the front face 32 and the rear  
10 face 34, the curtain airbag 12 and/or the tethers 26 may be mounted to the vehicle 10.

11 Preferably, this is accomplished to through the use of one of more fasteners 36 that are  
12 constructed to pass through the mounting brackets 30. These fasteners 36 can be selected from  
13 any of the types of fasteners known in the art, including bolts, screws, and/or other members  
14 designed to connect the curtain airbag 12 and/or the tethers 26 to the vehicle 10.

15 Referring to Figures 2 and 3, an embodiment of a mounting bracket 30 of the present  
16 invention is illustrated in greater detail. Specifically, Figure 2 shows the front side of the  
17 mounting bracket 30 whereas Figure 3 shows the backside of the mounting bracket 30.

18 In general, the mounting bracket 30 comprises a metal sheet or plate that has been bent  
19 or otherwise configured such that it comprises two faces: a front face 32 and a rear face 34. The  
20 rear face 34 is positioned behind the front face 32. The mounting bracket 30 is constructed such  
21 that all or a portion of the airbag (shown in Figure 1) and/or the tethers (shown in Figure 1) may  
22 be enclosed between the front face 32 and the rear face 34.

1 To ensure that the airbag and/or the tethers are properly enclosed between the front face  
2 32 and the rear face 34, the mounting bracket 30 may further include one or more depressions  
3 38 and/or one or more closing tabs 40. Preferably, the closing tabs 40 are pointed tabs or flaps  
4 that extend rearward from the front face 32 towards the rear face 34 as illustrated in Figure 3.  
5 However, other shapes and/or configurations of the closing tabs 40 may also be used.

6 Additionally, the mounting bracket 30 may further comprise one or more apertures 42  
7 and/or one or more slits 44. The apertures 42 are located on the front face 32 adjacent to the  
8 closing tabs 40. Conversely, the slits 44 are positioned on the rear face 34 and are sized such  
9 that they are capable of receiving the closing tabs 40.

10 The mounting bracket 30 is constructed such that the fasteners (shown in Figure 1) may  
11 pass through the mounting bracket 30. Thus, the mounting bracket 30 comprises a first opening  
12 46 and a second opening 48. The first opening 46 is located on the front face 32 and the second  
13 opening 48 is located on the rear face 34. Preferably, the second opening 48 is positioned  
14 behind the first opening 46. The size, shape, and configuration of the first opening 46 and the  
15 second opening 48 is selected such that the fasteners may pass through the mounting bracket 30  
16 via the first opening 46 and the second opening 48.

17 The mounting bracket 30 is capable of retaining a fastener. Accordingly, the mounting  
18 bracket 30 comprises one or more retaining members 50. Preferably, the retaining members are  
19 added to the mounting bracket 30 on the rear face adjacent to the second opening 48. The  
20 retaining members 50 are constructed such that if the fasteners pass through the mounting  
21 bracket 30, the fasteners engage the retaining members 50 and cause the mounting bracket 30 to  
22 retain the fasteners.

1 Referring specifically to Figure 3, the embodiment of the retaining member 50 will be  
2 described in greater detail. The retaining member 50 comprises one or more retaining tabs 52.  
3 The retaining tabs 52 are constructed such that if the fasteners (shown in Figure 1) pass through  
4 the mounting bracket 30, the fasteners contact and/or push apart the retaining tabs 52 and cause  
5 the mounting bracket 30 to retain the fasteners.

6 In some embodiments, the retaining tabs 52 may be angled. This may be accomplished  
7 by bending or otherwise constructing the retaining tabs 52 away from the first opening 46 such  
8 that the retaining tabs 52 form an angle with respect to the rear face 34. Preferably, the measure  
9 of the angle between the retaining tabs 52 and the rear face 34 is from about 3° to about 35°.  
10 However, other angles and/or configurations of the retaining tabs 52 may also be used.

11 The retaining member 50 may further comprise one or more centering tabs 54. The  
12 centering tabs 54 are positioned on the rear face 34 proximate the retaining tabs 52. Preferably,  
13 the position of the centering tabs 54 is selected such that the centering tabs 54 and the retaining  
14 tabs 52 surround or encircle the second opening 48.

15 The centering tabs 54 are constructed such that they are capable of guiding the fasteners.  
16 More specifically, the centering tabs 54 are configured such that if the fasteners pass through  
17 the mounting bracket 30, the centering tabs 54 guide the fasteners to ensure that the fasteners  
18 contact and/or push apart the retaining tabs 52.

19 As with the retaining tabs 52, embodiments of the retaining member 50 may be  
20 constructed in which the centering tabs 54 are angled. This may be accomplished by bending or  
21 otherwise constructing the centering tabs 54 away from the first opening 46 such that the  
22 centering tabs 54 form an angle with respect to the rear face 34. Preferably, the measure of the

1 angle between the centering tabs 54 and the rear face 34 is from about 45° to about 70°. Of  
2 course, other angles and/or configurations of the centering tabs 54 may also be used. Yet further  
3 embodiments may be made in which the centering tabs 54 are perpendicular or substantially  
4 perpendicular to the rear face 34 such that the centering tabs 54 may center and/or retain a  
5 fastener (shown in Figure 1) within the bracket 30.

6 In the embodiment shown in Figure 3, the retaining member 50 comprises two retaining  
7 tabs 52 and two centering tabs 54. However, other embodiments may be made in which the  
8 number, position, shape and/or orientation of the retaining tabs 52 and/or the centering tabs 54  
9 differs from that which is shown in Figure 4. For example, some embodiments may be made  
10 with only one retaining tab 52 and/or only one centering tab 54. Similarly, other embodiments  
11 may have more than two retaining tabs 52 and/or more than two centering tabs 54. Still further  
12 embodiments may be made in which the retaining member 50 comprises some other feature  
13 and/or combination of features that are capable of retaining a fastener.

14 By constructing the mounting bracket 30 with one or more retaining members 50,  
15 significant advantages may be achieved over the prior art. For example, by including a retaining  
16 member 50, the present invention eliminates the need to use a retaining washer or other separate  
17 retaining component. As such, the total number of parts needed as part of the airbag system is  
18 reduced. Additionally, by constructing a mounting bracket that is capable of retaining a  
19 fastener, the present invention also decreases the time necessary to assemble or install the airbag  
20 system as the airbag installer will no longer be required to waste time fumbling with retaining  
21 washers or other tiny parts. Moreover, by eliminating the retaining washer, the present

1 invention also allows airbag manufacturers the ability to use the mounting brackets 30 with  
2 fasteners of varying diameters, widths, and/or shapes.

3 Referring now to Figure 4, a partially cutaway perspective view of the side of the  
4 mounting bracket 30 of the present invention is depicted. As seen in Figure 5, the mounting  
5 bracket 30 may further comprise an extending flange 56. The extending flange 56 is a flap or  
6 tab that is added to the front face 32. Preferably, the extending flange 56 extends outwardly  
7 away from the rear face 34 such that it may support or engage the airbag (shown in Figure 1)  
8 and/or the tethers (shown in Figure 1).

9 As seen in Figure 4, the mounting bracket 30 may additionally comprise one or more  
10 anti-rotation tabs 58. The anti-rotation tabs 58 generally comprise flaps, tabs, or extensions that  
11 extend rearwards from the mounting bracket 30. Preferably, the anti-rotation tabs 58 are  
12 attached to the rear face 34 and are designed such that they are capable of being inserted into an  
13 aperture or opening located on a vehicle.

14 The anti-rotation tabs 58 are constructed such that if the mounting bracket 30 is installed  
15 on a vehicle, the anti-rotation tabs 58 prevent the mounting bracket 30 from rotating. More  
16 specifically, if the mounting bracket 30 is mounted on a vehicle, the anti-rotation tabs 58 engage  
17 the vehicle and prevent the mounting bracket 30 from rotating or spinning when a torque or  
18 force is applied.

19 In the embodiment shown in Figure 4, two anti-rotation tabs 58 are attached to the rear  
20 face 34 proximate the top of the mounting bracket 30. However, other embodiments may be  
21 made in which the number, configuration, shape, and/or position of the anti-rotation tabs 58  
22 differs from that which is shown in Figure 4. For example, embodiments may be made having

1 only one anti-rotation tab 58. Still other embodiments may have more than two anti-rotation  
2 tabs 58. Yet, further embodiments may position the anti-rotation tabs 58 on or proximate to the  
3 middle and/or the bottom of the rear face 34. Even further embodiments may position the anti-  
4 rotation tabs 58 on or proximate to the front face 32.

5 By configuring the mounting bracket 30 with one or more anti-rotation tabs 58,  
6 significant advancements may be achieved over many previously known mounting brackets.  
7 Specifically, by adding the anti-rotation tabs 58, the present invention engages the vehicle and  
8 prevents the rattlings and vibrations associated with normal operation of the vehicle from  
9 loosening or disconnecting the fastener and/or the mounting bracket. As such, the need to use  
10 expensive shoulder bolts or other sophisticated fasteners to permanently attach the airbag to the  
11 vehicle is effectively eliminated.

12 Referring now to Figure 5, a cross-sectional view of the mounting bracket 30 is depicted.  
13 More specifically, Figure 5 is a cross-sectional view of the embodiment of the mounting bracket  
14 30 shown in Figure 4 that is being used to enclose a portion of the curtain airbag 12. The curtain  
15 airbag 12 is enclosed between the front face 32 and the rear face 34. Of course, in a similar  
16 manner, the mounting bracket 30 may also enclose a portion of the tethers (shown in Figure 1)  
17 between the front face 32 and the rear face 34.

18 In Figure 5, the curtain airbag 12 includes one or more holes 60. These holes 60 are  
19 apertures, openings, or slits in the curtain airbag 12. Preferably the holes 60 are positioned on  
20 the curtain airbag 12 such that when the curtain airbag 12 is enclosed between the front face 32  
21 and the rear face 34, the position of the holes 60 corresponds to the position of the first opening  
22 46.



1 Referring now to Figure 6, the manner in which the mounting bracket 30 may operate to  
2 mount a curtain airbag and/or a tether to a vehicle is depicted. Specifically, Figure 6 shows the  
3 cross-sectional view of Figure 5 used to mount the curtain airbag 12 to a portion of the vehicle  
4 10. Of course, as noted above, the mounting bracket 30 may also be used in a similar manner to  
5 mount the one or more tethers (shown in Figure 1) to the vehicle 10.

6 As with Figure 5 described above, the embodiment of the mounting bracket 30 shown in  
7 Figure 6 encloses a portion of the curtain airbag 12 between the front face 32 and the rear face  
8 34. The one or more fasteners 36 pass through the mounting bracket 30 via the first opening 46  
9 and the second opening 48. The fasteners 36 also pass through the curtain airbag 12 via the one  
10 or more holes 60.

11 As the fasteners 36 pass through the mounting bracket 30, the fasteners 36 engage the  
12 retaining members 50. More specifically, as the fasteners 36 pass through the mounting bracket  
13 30, the fasteners 36 contact and/or push apart the retaining tabs 52 and cause the mounting  
14 bracket 30 to retain the fasteners 36. Thus, in the embodiment shown in Figure 6, the fasteners  
15 36 have contacted and/or pushed apart the retaining tabs 52 such that the retaining tabs 52 have  
16 become deformed.

17 Once the fasteners 36 have passed through the mounting bracket 30, the mounting  
18 bracket 30 with the enclosed curtain airbag 12 may then be added to the vehicle 10. This may  
19 be accomplished via the fasteners 36. More specifically, the retaining member 50 is constructed  
20 such that the fasteners 36 that pass through the bracket 30 may be easily rotated. Thus, the  
21 mounting of the bracket 30 with the enclosed airbag 12 and/or tethers 26 (shown in Figure 1)  
22 may be accomplished by rotating and/or inserting the fasteners 36 into one or more apertures 62

1 that have been added to the vehicle 10. Additionally, the anti-rotation tabs 58 may also be  
2 inserted into apertures 62 in the vehicle 10.

3 Referring now to Figures 1-6 generally, the present invention also provides for an  
4 efficient method for installing a curtain airbag 12 and/or the tethers 26 to a vehicle 10. First one  
5 or more mounting brackets 30 are obtained. Next, the airbag 12 and/or the tethers 26 are  
6 secured to the mounting brackets 30. Preferably, this is accomplished by enclosing all or a  
7 portion of the airbag 12 and/or the tethers 26 between the front face 32 and the rear face 34.  
8 Lastly, the mounting brackets 30 (with the secured curtain airbag and/or the tethers 26) are  
9 mounted to the vehicle 10. Preferably, this is accomplished by inserting the fasteners 36 into  
10 one or more apertures 62 in the vehicle 10.

11 In summary, the present invention provides a mounting bracket that may be used to  
12 mount a curtain airbag and/or a tether to a vehicle. The mounting bracket is capable of retaining  
13 fastener and as a result, it eliminates the need for a retaining washer or other similar retaining  
14 feature.

15 The present invention may be embodied in other specific forms without departing from  
16 its structures, methods, or other essential characteristics as broadly described herein and claimed  
17 hereinafter. The described embodiments are to be considered in all respects only as illustrative,  
18 and not restrictive. The scope of the invention is, therefore, indicated by the appended claims,  
19 rather than by the foregoing description. All changes that come within the meaning and range of  
20 equivalency of the claims are to be embraced within their scope.

21 What is claimed and desired to be secured by United States Letters Patent is:  
22